

Male facial attractiveness, perceived personality, and child-directed speech

Ian S. Penton-Voak^{a,*}, Stephanie Cahill^a, Nicholas Pound^b, Vera Kempe^c,
Sonja Schaeffler^d, Felix Schaeffler^d

^aDepartment of Experimental Psychology, University of Bristol, Bristol BS8 1TU, UK

^bCentre for Cognition Neuroimaging, Brunel University, Uxbridge UB8 3PH, UK

^cPsychology Department, Stirling University, Stirling, Scotland, UK

^dQueen Margaret University, Edinburgh, Scotland, UK

Initial receipt 15 November 2006; final revision received 6 March 2007

Abstract

This study investigated associations between men's facial attractiveness, perceived personality, attitudes towards children, and the quality of their child-directed (CD) speech. Sixty-three males were photographed and completed a brief questionnaire concerning their family background and attitudes towards children. They then performed a task in which they gave directions to (imaginary) adults and children. Analyses of the acoustic properties of speech produced under each condition were performed in order to determine the extent to which individual men changed their speech to accommodate a child listener (i.e., exhibited CD speech). The men's faces were rated by 59 female participants, who assessed perceived prosociality, masculinity, health, and short- and long-term attractiveness. Although women's ratings of attractiveness and prosociality were related to men's self-reported liking for children, they were negatively correlated to men's use of CD speech (i.e., less attractive men used more features of CD speech when addressing an imaginary child). These findings are discussed in the context of halo effects and strategic pluralism in male mating behaviors.

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Keywords: Facial attractiveness; Perceived personality; Zero acquaintance; Child-directed speech; Paternal investment

1. Introduction

Recent studies of female mate preferences suggest that women display strategic pluralism; that is, they possess context-specific psychological adaptations that lead them to favour different mate characteristics in different mating contexts. Much of this research has involved assessing how female preferences differ across hypothetical short-term or long-term relationship scenarios, and this has proved a successful research strategy. The short-term vs. long-term dichotomy is intuitively plausible and has generated data indicating that women's preferences for male partners do indeed change in different mating situations. Moreover, these apparent facultative shifts in female preferences provide support for adaptationist hypotheses.

Men provide indirect genetic benefits and, often, direct phenotypic benefits to their offspring in the form of paternal

investment. It is likely that women have faced selection pressures that favour accurate detection of cues to both these benefits (as is the case in many nonhuman species; Jennions & Petrie, 2000). As men with cues to high genetic quality seem likely to provide low levels of paternal investment, and vice versa, women may derive fitness benefits from adopting conditional mate choice strategies (Gangestad & Simpson, 2000).

Contextual variation in female preferences for male faces also supports the theory that trade-offs between genetic and phenotypic benefits are occurring in female mate choice. Trade-off theories would predict, and preference data demonstrate, that prosociality should be more important in a long-term than in a short-term relationship, and that putative good genes cues should be prioritized in short-term situations (Little, Jones, Penton-Voak, Burt, & Perrett, 2002).

Women's preferences for faces seem consistent with strategic pluralism: depending on contextual factors, women seem to either prioritise cues to good genes (e.g., facial masculinity) or cues to future paternal investment (e.g., attributions of prosocial personality) when choosing

* Corresponding author. Department of Experimental Psychology, University of Bristol, Bristol, BS8 1TU, UK.

E-mail address: I.S.Penton-voak@bristol.ac.uk (I.S. Penton-Voak).

a mate (e.g., Penton-Voak et al., 1999). However, one potential criticism of this body of work is that there is a lack of good evidence that the attributions that women make, particularly to faces, are accurate enough to be useful. Although there is increasing evidence that certain aspects of facial appearance are associated with genetic and/or endocrine factors that are likely to be fitness related (e.g., Roberts et al., 2005; Penton-Voak & Chen, 2004), the links between the personality attributions made to faces and future parental investment (the key trait in the strategic pluralism argument) are poorly understood. There is some evidence that personality attributions to facial characteristics have a ‘kernel of truth’ (see Zebrowitz & Collins, 1997, for review) but accuracy tends to be low (e.g., Penton-Voak, Pound, Little, & Perrett, 2006).

One study (Roney, Hanson, Durante, & Maestripieri, 2006) has directly addressed the question of whether women can accurately ‘track’ men’s genetic and paternal quality from facial images. In this study, men were photographed, provided a saliva sample to assay circulating testosterone levels, and completed an ‘interest in infants task’ (in which they had to choose either an adult or infant face as most preferred in a series of forced choice trials). The rationale of expecting women to be able to ‘track’ variation in these measures is that testosterone levels are a putative correlate of genetic quality, while the ‘infant interest’ task is a plausible measure of willingness to provide paternal investment. Roney et al. (2006) found that men’s scores on the ‘infant interest’ task predicted women’s ratings of how much the men liked children. Both the men’s scores on the ‘infant interest’ task and women’s ratings of likely paternal quality predicted the attractiveness of men in a long-term attractiveness judgment, whereas the testosterone levels and masculinity ratings (which were significantly related) predicted women’s attractiveness ratings in the context of a short-term relationship. This paper, then, provides the best evidence to date that women can discriminate between cues to genetic and parental quality, and make strategic mate preference decisions based on these traits.

The present study aimed to expand upon the findings of Roney et al. (2006). In addition to collecting images of men for rating by women on a variety of traits and attractiveness, we collected two measures of the men’s affinity for children. The first was a brief questionnaire measure, analogous to, although less sophisticated than, the task of Roney et al. The second measure was derived from a behavioral task in which the men were asked to produce speech as though talking to a child. This is a novel and potentially useful way to assess a man’s potential interest in, and likely success in interaction with, their offspring. When parents talk to their children, they adopt a speech register that is characterized by elevated pitch, exaggerated prosody, slower speech rate, shorter utterances, and simplified morphosyntax (Fernald et al., 1989). This speech register, referred to as child-directed (CD) speech, serves to regulate the child’s arousal and

emotion, and to direct the child’s attention. There is also increasing evidence that CD speech seems to be specifically suited to the task of language learning, as the various speech adjustments provide multiple cues that can facilitate the child’s language acquisition (Kuhl et al., 1997; Kempe, Brooks, Mironova, & Federova, 2003).

Most studies of CD speech production by adults have examined the speech of mothers to their small children, and fewer studies have included fathers, grandparents, and older siblings. These studies show, however, that CD speech produced by other relatives tends to be similar in terms of its acoustic properties to mothers’ CD speech (Golinkoff & Ames, 1979; Keller, Gauda, Miranda & Scholmerich, 1982; Lipscomb & Coon, 1983). The apparent similarities in the way adults talk to children have led to the suggestion that CD speech is a form of ‘species-specific didactic support’ (Papousek, Papousek, & Haekel, 1987). The ability to perform CD speech may be a useful behavioral indicator of a man’s affinity for children. Given that CD speech has been shown to be beneficial for child development, the degree to which a man displays characteristic features of CD speech may be related to factors that affect his willingness to invest in his own progeny.

We used two measures of men’s CD speech to assess two aspects of vocal accommodation to communication with children. The first was average pitch increase. Studies of vocal expression have demonstrated that variation in pitch is one of the prime indicators of emotional state (Scherer, 2003). Pitch variation is related to modifications at the vocal folds and may be influenced by physiological changes accompanying various emotional states. Pitch increase, therefore, might be related to the participants’ positive affect towards children. The second measure of CD speech accommodation was increase in vowel length. Lengthening of vowels is a major factor responsible for the slower speech rate of CD speech and, in conjunction with the resulting hyper-articulation (Bradlow, Toretta, & Pisoni, 1996), may be viewed as a reflection of an individual’s deliberate attempt to facilitate communication with a child (Liu, Kuhl, & Tsao, 2003). Interestingly, in pet-directed speech, which is characterized by a large degree of vocal affect as indicated by increased pitch variation compared to AD speech, hyper-articulation does not occur (Burnham, Kitamura, & Vollmer-Conna, 2002). This suggests that vowel lengthening does not necessarily have to be affectively modulated, but may represent a didactic effort on the part of the speaker to aid the child’s understanding and acquisition of language.

Based on theories of strategic pluralism in mate preferences, and the findings of Roney et al. (2006), we aimed to further investigate two research questions in the current study.

1.1. Do women’s attributions predict men’s self-reported affinity for children and their behavior in the CD speech task?

Roney et al. (2006) reported that women are able to perceive accurately men’s self-reported affinity for chil-

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